

# II.

## Office of the Director National Institutes of Health

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### INTRODUCTION

The Director of the National Institutes of Health (NIH) provides overall leadership for NIH activities. The Director maintains close liaison with the Office of the Secretary, U.S. Department of Health and Human Services (DHHS), in matters relating to medical research, research training, education and training in the health professions, human resources, and biomedical communications. The Director also works closely with other DHHS officials to coordinate programs.

The Office of the Director comprises the following positions: a Deputy Director; Deputy Directors for Extramural Research, Intramural Research, and Management; and Associate Directors for Intramural Affairs, Administration, AIDS (acquired immunodeficiency syndrome) Research, Communications, Research on Women's Health, Research on Minority Health, Disease Prevention, Legislative Policy Analysis and Development, Behavioral and Social Sciences Research, Protection From Research Risks, and Technology Transfer.

NIH Acting Director Dr. Ruth Kirschstein and members of her staff represent the NIH by participating in meetings with officials of foreign governments and in international conferences. During fiscal year 2000 (FY 00), the Acting Director met with representatives from several foreign governments and international research organizations. For example, she met with the Brazilian Minister of Health, the Chairman of the Board of the Alberta Heritage Foundation for Medical Research in Canada, the Chinese Minister of Health, the German Minister for Education and Research, and the Japanese Minister for Science and Technology. She participated in local meetings with the international research organizations, the U.S.-Japan Workshop sponsored by the National Institute of Environmental Health Sciences (NIEHS), the John E. Fogarty International Center for Advanced Study in the Health Sciences (FIC), and the Science and Technology Delegation

from Vietnam. In addition, the Acting Director participated in the NIH-Conacyt Signing Ceremony, which celebrated links between the NIH and its Mexican counterpart.

The Acting Deputy Director of the NIH participated in the Indo-U.S. Workshop on Health and Nutrition in Women, Infants, and Children, in Hyderabad, India, in February 2000. During that visit, she also attended a meeting on nutrition, in Hyderabad.

### OFFICE OF AIDS RESEARCH

The Office of AIDS Research (OAR) is responsible for coordinating NIH intramural and extramural research efforts and related activities relevant to AIDS and the human immunodeficiency virus (HIV), which causes AIDS. For international activities related to AIDS research, OAR collaborates with the NIH Institutes and Centers that support and conduct such research, other organizations in the U.S. Public Health Service, DHHS, and other governmental and nongovernmental organizations. Specific efforts are described in the chapters for the individual Institutes and Centers.

Since its inception, OAR has established a number of initiatives to increase and enhance the NIH global AIDS research agenda and development of research collaborations. These initiatives include facilitating international research partnerships and training; disseminating research results; and funding international research projects. OAR supports international workshops to identify research gaps and priorities, share scientific information, and disseminate research advances. OAR also provides funding to research projects proposed by the NIH Institutes that address important international AIDS research priorities, including projects targeted to development, implementation, and evaluation of HIV prevention interventions for resource-poor nations.

### Highlights of International Activities

OAR has announced an initiative and strategic plan for global research on HIV/AIDS. The aim is to slow the disaster of HIV/AIDS and reverse its destruction of communities, economies, and nations worldwide. Specific goals of this initiative are as follows:

- increase the investment in global AIDS research;
- establish new funding approaches and new research opportunities;
- provide support for long-term research infrastructure;
- fund development of new prevention strategies;
- support international conferences and workshops with scholarships for scientists from developing nations;
- develop and support information dissemination and translation of research results relevant to resource-poor settings;
- coordinate global AIDS research policy issues;
- support training workshops to help international investigators prepare research grants and establish partnerships; and
- address obstacles to international research.

As part of this initiative, OAR is establishing a Global Strategy Group to link Federal research efforts with international partners. This group, cochaired by the Director of OAR and the Director of the National Institute of Allergy and Infectious Diseases (NIAID), NIH, will include policy makers, ethicists, experts from academia, foundations, international organizations, and leading scientists from around the world. It will help to determine the critical priorities and steps necessary to achieve the research goals.

OAR convened a group of experts from academia and industry and community representatives, to develop the Strategic Plan for International AIDS Research. The plan is based on the most compelling scientific priorities that will lead to better therapies and

prevention strategies for HIV infection and AIDS around the world. Priorities identified in the plan include the following:

1. establishment of research centers of excellence;
2. conduct of studies relevant to the geographic areas of the world and specific populations hardest hit by the HIV/AIDS epidemic;
3. translation of research results to improve patient care and to develop prevention programs appropriate to the setting; and
4. training for research needs and technology transfer and for building bridges with programs to provide services.

## **Summary of International Programs and Activities**

### **Country-to-Country Activities and Bilateral Agreements**

#### *India*

In June 2000, the U.S. Secretary of Health and Human Services and the Minister of Health and Family Welfare of India signed a Joint Statement on U.S.-Indo Collaboration on Prevention of Sexually Transmitted Diseases and HIV/AIDS. OAR coordinated with the NIH Institutes on the development of the Joint Statement. To help in identifying potential collaborative research studies, OAR cosponsored a meeting in Madras, in January 2000, to bring together U.S. and Indian scientists to discuss cooperation in four scientific areas: behavioral interventions, AIDS vaccine development, prevention of HIV transmission from mother to child, and other primary and secondary prevention interventions for HIV/AIDS.

#### *Japan*

The AIDS Panels of the U.S.-Japan Cooperative Medical Science Program held their 12th joint meeting in Santa Fe, New Mexico, on March 22–24, 2000. The panels focused on the genetic diversity of HIV, because it is fundamental to the development of a vaccine for HIV/AIDS. The existence throughout the world of a variety of HIV viral subtypes is a major issue in development of an AIDS vaccine. In particular, little is known about the ability of a vaccine candidate to confer cross-reactive immunity. Thus, research on the genetic relatedness of HIV clades and the prevalence of diverse clades in

various regions is critical in the design of vaccine candidates that can be used in the broadest array of geographic settings.

Since 1994, the AIDS Panels have served as the focus for HIV-related research efforts in regard to the U.S.-Japan Common Agenda. Under this agenda, the United States and Japan have agreed to cooperate to enhance multilateral research efforts on AIDS and to work together in using bilateral programs to address the AIDS crisis in the developing world. In FY 00, the panels had the opportunity to further these efforts through collaboration in organizing the 5th International Conference on Emerging Infectious Diseases in the Pacific Rim, which was held in Madras, on January 7–9, 2000. The topic for this conference was AIDS, tuberculosis, and leprosy. Participants worked together to develop recommendations for further research in the Pacific Rim region. The group considered existing capacities for research in the region and identified several areas that need strengthening. These include (a) public health and health care infrastructures, for implementation of research findings, and (b) research infrastructures, for performance of research that is relevant to the community. The research recommendations provided the foundation for discussion between U.S. and Indian scientists, who met subsequently to further develop selected research topics to be pursued under the Joint Statement on U.S.-Indo Collaboration on Prevention of Sexually Transmitted Diseases and HIV/AIDS.

#### **Extramural Programs**

OAR does not award grants or contracts in direct support of specific AIDS research projects, but OAR funds may be provided to individual NIH Institutes and Centers that identify promising opportunities or critical research needs. Through the HIV Prevention Science Initiative, FY 00 funds were used to support several AIDS research projects through the Institutes and Centers. The HIV Prevention Science Initiative is part of OAR's continuing efforts to develop a comprehensive HIV prevention program at the NIH.

OAR provided funds to the National Institute of Child Health and Human Development (NICHD), NIH, to support a study to evaluate a new drug approach to prevent transmission of HIV from mother to child. The investigators will compare the prophylactic

efficacy and the safety of nevirapine and of zidovudine, given to a woman at the onset of labor and to the infant at 48–72 hours after birth. The study will build on an existing collaboration among Harvard University, Cambridge, Massachusetts; Institut de Recherche pour le Developpement, Paris, France; and Mahidol University, Bangkok, Chiang Mai University, and the Ministry of Public Health, Thailand.

OAR funds were provided to the National Institute on Aging (NIA), NIH, to support five activities. In the first project, OAR is supporting the World Health Organization (WHO) to work with the governments of two partner countries, Tanzania and Zimbabwe, in a pilot survey to gather baseline data on an area of extreme importance in Africa: the impact of HIV/AIDS on older Africans, who bear much of the burden of the AIDS epidemic and who must care for sick adult children and orphaned grandchildren. The project will later be extended to Ghana and South Africa.

In an ongoing project entitled HIV/AIDS Epidemic, Kin Relations, Household Organization, and the Elderly, scientists at the University of Natal, South Africa, are collaborating with investigators at the University of Wisconsin to update 10-year-old data by using new procedures to project the effect of the HIV/AIDS epidemic on families, household organizations, and older adults in sub-Saharan Africa.

Staff involved in the Longitudinal Data Analysis Workshops of INDEPTH (International Network of Field Sites With Continuous Demographic Evaluation of Populations and Their Health), in Africa, will develop and conduct two workshops to increase local research capacity in several countries in Africa. The purpose of the workshops is to increase local capacity of African countries to collect and analyze data. The workshops will help to improve the monitoring of HIV/AIDS in developing countries. INDEPTH is composed of 24 demographic and health surveillance sites in Africa, Asia, and developing areas of Europe and the Middle East, including sites in 17 countries of Africa.

For a study in South Africa and Zambia, OAR funds are being used to establish the Population Aging Center at the University of Colorado, Boulder. The center will study the effects of HIV/AIDS on older adults, children, and the family; the impact of inter-

vention programs; the effects of migration on older adults; methods for better estimation of HIV incidence and prevalence; and the effects of population changes on livelihoods and lifestyles. Investigators at the University of Colorado will collaborate with investigators at the Africa Center for Population and Health, Durban, South Africa, and the Gwembe Tonga Research Project, Zambia. This project will also link with sites in countries participating in INDEPTH.

OAR also provided funds to the National Institute on Drug Abuse, NIH, for a project that will (1) perform comparative analyses of data from syringe-exchange programs in North America and Russia; (2) conduct comparative analysis of data from the second round of the WHO multisite study of AIDS and drug use; and (3) follow up on data collection at selected WHO study sites.

The goal of the project on Sociodemographic Impact of AIDS on Older Persons is to understand how the HIV/AIDS epidemic directly and indirectly affects older persons in Thailand. Investigators from the University of Michigan, the University of California, Berkeley, and Chulalongkorn University and Mahidol University, Bangkok, will collaborate to develop data in six areas: (1) risk behaviors for acquisition of HIV in older persons; (2) migration due to AIDS; (3) interactions between health personnel and older persons caring for persons with AIDS; (4) community reaction to older caregivers; (5) the emotional impact of having a child with AIDS; and (6) assessment of the demographic magnitude of the influence of AIDS on older persons. The study will triangulate data from several sources, to provide useful information to Thai policy makers.

### **International Meetings**

In collaboration with other U.S. organizations and international organizations, OAR sponsored the first international conference on microbicide research. The goal of the March 2000 International Microbicides Conference, in Crystal City, Virginia, was to encourage international collaboration among clinicians, researchers, educators, and activists across the disciplines of basic, clinical, and behavioral science and public health. A particular focus of the conference was the need to develop a product that will be easily accessible and acceptable in developing countries. More than 600 participants from

more than 40 nations attended a scholarship program supported by OAR to ensure participation in the meeting by scientists from developing countries.

### *Caribbean*

OAR developed the Caribbean-Wide Training and Information Dissemination Conference in collaboration with Dr. Donna Christian-Christensen, the U.S. Congressional Representative for the U.S. Virgin Islands, and with health care professionals and community representatives in the U.S. Virgin Islands. Held in February 2000, this conference was designed to disseminate research results and information on HIV treatment and prevention and other issues related to HIV. The 2-day conference took place in five sites: the Bahamas, Barbados, Jamaica, Trinidad and Tobago, and St. Thomas, U.S. Virgin Islands. Morning plenary sessions were broadcast by satellite from St. Thomas to each of the other islands; afternoon sessions were devoted to island-specific issues. Topics ranged from prenatal care and prevention of perinatal HIV transmission to cultural considerations in prevention, treatment, and care of persons with HIV/AIDS. More than 2,300 participants attended, including health care professionals and community representatives.

### *China*

China is initiating its first HIV therapeutic clinical trials. To assist in this effort, OAR supported a workshop in Beijing, in May 2000, to train physicians in the use of virological and immunologic testing of HIV-infected persons receiving highly active antiretroviral therapy (HAART). A limited number of physicians and nurses in China are trained in this area. The workshop was designed to enable the Chinese National Center for AIDS Prevention and Control to train physicians and nurses who will then be skilled to train personnel in six provinces in China where trials will be conducted.

### *Germany*

OAR and the Institute for Tropical Medicine, Hamburg, sponsored a workshop on scientific issues related to clinical trials of vaccines for HIV/AIDS. The meeting on Immunologic, Virologic, and Morphologic Monitoring of HIV Vaccine Trials was held

in Hamburg, Germany, in September 2000. Topics ranged from genetics of vaccines to assessment of immune response.

### *Russia*

OAR, together with FIC and NIAID, NIH, sponsored a U.S.-Russia workshop entitled Building and Sustaining Cooperation in Emerging and Re-emerging Infectious Diseases Biomedical Research, in Moscow, in May 2000. The purpose of the meeting was to build on and sustain research partnerships. The workshop brought together scientists who had received funding from the U.S. Civilian Research and Development Foundation, for the Independent States of the Former Soviet Union to conduct research on HIV/AIDS, tuberculosis, hepatitis, and other emerging or reemerging infectious diseases. The objectives of the workshop were to provide a forum for discussion of ongoing research, research findings, and future research directions; to foster the development of networks for research and research training within the Independent States of the Former Soviet Union; and to assist U.S.-Russia partnerships in the identification of potential NIH funding sources.

## **OFFICE OF RESEARCH ON WOMEN'S HEALTH**

The Office of Research on Women's Health (ORWH) was established in September 1990, within the Office of the Director of NIH, to serve as the focal point for research on women's health. The Office has the following mandate:

- to strengthen, develop, and increase research on diseases, disorders, and conditions that affect women and to determine gaps in knowledge about such conditions and diseases;

- to ensure that women are appropriately represented in biomedical and biobehavioral research studies, especially in clinical trials supported by the NIH; and

- to develop opportunities and support for recruitment, retention, reentry, and advancement of women in biomedical careers.

ORWH works in partnership with the NIH Institutes and Centers to ensure that research on women's health is an integral part of the scientific fabric at the NIH and throughout the scientific community.

Research on women's health is a global concern, and ORWH has worked with in-

vestigators, health care providers, and women's health advocates around the world on studies and activities to improve the health of women. ORWH staff members have made presentations at scientific meetings abroad and have provided information about policies and programs on women's health research at the NIH to colleagues from other countries, including Canada, Denmark, Israel, Italy, Japan, Korea, and Sweden.

The Office has cosponsored international conferences in the United States. ORWH was a cosponsor of the World Congress on Osteoporosis 2000, which was held in Chicago, Illinois, on June 15–18, 2000. At this meeting, the world's prominent researchers and physicians met to discuss the latest research findings and clinical strategies for the prevention, diagnosis, and treatment of osteoporosis. This was the first World Congress on Osteoporosis to be held in the United States. The program featured topics such as sources of bone fragility and bone loss; global assessment of fracture risk; genetics; steroid-induced osteoporosis; nutrition and bone disease; estrogen and progestins; osteoporosis in men; bone-forming agents; selective modulators of estrogen receptor; and bisphosphonates.

The Director of ORWH met with representatives of the College of Nursing, Ewha Woman's University, Seoul, Korea, who also attended ORWH's 10th anniversary celebration on September 10–11, 2000. In addition, the Director met with the Advisory Committee on Research on Women's Health, on September 12, 2000, in Bethesda, Maryland. The committee was invited to attend the 7th Annual Qualitative Health Research Conference, which will be held in Seoul, on June 26–29, 2001, and the 13th International Congress on Women's Health Issues, which is scheduled for June 2002.

The Director of ORWH met with a representative of the Giovanni Lorenzini Medical Science Foundation, Milan, Italy, on November 17, 2000, to discuss the 4th International Symposium on Women's Health and Menopause. That meeting, which is cosponsored by ORWH, will be held in Washington, D.C., on May 19–23, 2001.

The Medical Advisor to the Director of ORWH was involved with several international activities during FY 00. By invitation from the Italian Society of Perinatal Medi-

cine, she made a presentation on drug exposure in utero, at the National Congress on Perinatal Medicine, in Turin, on December 2–4, 1999. After that Congress, the Medical Advisor provided the keynote address on methadone treatment in women, including pregnant women, to the IIIrd Italian Methadone Conference, in Pietrasanta, on December 6–8, 1999. At that meeting, she received the first Paolo Picchio Award for leadership in the treatment of opiate addiction with use of methadone maintenance.

During FY 00, the Medical Advisor to the Director of ORWH served as a member of the Scientific Program Committee, chaired a symposium, and made a presentation at the 2001 1st World Congress on Women's Mental Health. That meeting was held under the auspices of the Women's Mental Health Section of the World Psychiatric Association, the North American Society of Psychosocial Obstetrics and Gynecology, the Marce Society, and the International Society for Psychosomatic Obstetrics and Gynecology.

The 1st Congress of the Nordic Association Against Child Abuse and Neglect was held in Linköping, Sweden, on May 23, 2000. The Medical Advisor to the Director of ORWH presented a keynote lecture on Substance Abuse in Pregnant Women and Its Potential Effects on Mothers and Children. In addition, the Medical Advisor made a presentation on substance abuse in pregnant women, at University Hospital of Copenhagen, Denmark, on May 25, 2000.

On June 17–22, 2000, the Medical Advisor to the Director attended the College on Problems of Drug Dependence, in San Juan, Puerto Rico. She participated in several symposia and workshops on gender-specific issues in drug dependence.

Other staff of ORWH met with representatives of the Tel Aviv Medical School, Israel, to plan the Sackler Scholars NIH U.S.-Israel Exchange Program. In conjunction with the NIH Office of Intramural Research and the Sackler Faculty of Medicine, Tel Aviv University, a binational Student Exchange Program in Women's Health Studies will be started in FY 01. Planning activities addressed applications, review of applications, and logistics. This program will provide Israeli students enrolled in M.D. and Ph.D. programs with the opportunity to participate in women's health research programs at that the NIH. It is anticipated that this

program will facilitate training for Israeli students, biomedical research on women's health in Israel, and collaborations between Israeli students and NIH scientists.

## **OFFICE OF RESEARCH ON MINORITY HEALTH**

With a focus on addressing and eliminating health disparities in minority populations, the Office of Research on Minority Health (ORMH) was established within the Office of the Director of NIH, to serve as the focal point for NIH-supported research on minority health and research training. ORMH has a twofold mission: extending healthy life and reducing the burden of illness among minorities through targeted research and expanding the participation of underrepresented minorities in all phases of biomedical and behavioral research.

Minorities at all stages of life have poorer health and higher rates of premature death than the majority groups in the United States. The 1985 report of the Secretary's Task Force on Black and Minority Health (the Heckler report) identified six causes of death that collectively accounted for more than 80% of the excess mortality among minority groups in the United States—cancer; cardiovascular and cerebrovascular diseases; dependency on alcohol, tobacco, or drugs; diabetes mellitus; homicide and accidents (unintentional injuries); and infant mortality.

### **Highlights of International Activities Minority Training Program in Tropical Medicine**

In FY 00, in collaboration with NIAID, ORMH continued to support the Minority Training Program in Tropical Medicine sponsored by the University of Maryland, Baltimore, at the Malaria Research and Training Center, University of Mali. Advanced undergraduates and senior medical students from U.S. universities received first-hand experience working in Africa on short-term rotations to study malaria in laboratory and field research and in clinical settings at the NIH-supported Malaria Research and Training Center established by the University of Mali and the University of Maryland Medical School. The Program aims to encourage participants to develop careers in biomedical research on infectious and tropical diseases.

### **Minority International Research Training Program**

ORMH supported the Minority International Research Training (MIRT) Program in collaboration with FIC. The Program provides international research training opportunities for qualified underrepresented minority students at the postbaccalaureate level. Through participation in the Program, it is expected that undergraduate, graduate, and medical students will gain an increased awareness of international research issues and their potential implications domestically. The MIRT Program also aims to acquaint the participants with a range of career opportunities in biomedical research and encourage their consideration of pursuing training for careers in biomedical research, especially in areas related to minority health problems. MIRT programs are supported at historically black colleges and universities (HBCUs) and at other universities and colleges with a significant enrollment of students who are members of underrepresented racial and ethnic minority groups.

### **International Training and Research Program in Emerging Infectious Diseases**

The International Training and Research Program in Emerging Infectious Diseases (ITREID) aims to increase the capabilities of developing countries to understand, control, and prevent emerging infectious diseases through collaborative research and training efforts with academic institutions in the United States. More than 30 pathogenic microbes and infectious diseases have been recognized since the mid-1970s, and all are of national and international importance. FIC administers and supports the Program, and in FY 00, ORMH was one of four cofunders for ITREID.

### **National Center on Minority Health and Health Disparities**

The Minority Health and Health Disparities Research and Education Act of 2000 (Public Law [P.L.] 106-525) abolished the Office of Research on Minority Health (ORMH) within the Office of the Director and established the National Center on Minority Health and Health Disparities (NCMHD). The programs within ORMH will be transferred to the new Center in January 2001. The FY 01 budget for the new Center is \$130 million, which

includes the previous ORMH budget of \$98 million.

Within the NIH, NCMHD will serve as the focal point for planning and coordinating research on minority health, disparities in minority health, and other health disparities. The Center will coordinate the development of a comprehensive research agenda on health disparities. The purpose of this agenda is to identify and establish priorities, a budget, and policies to govern the conduct and support of all NIH-sponsored research and research training activities in minority health, disparities in minority health, and other health disparities. Through grant making and by leveraging the programs of the NIH Institutes and Centers, the Center will focus on minority health and health disparities at the NIH. Through independent research activities and by helping to build research capacity at institutions that serve minority groups, the Center will complement research on minority health and health disparities at the NIH.

The focus of the Center is fourfold:

1. disseminating culturally appropriate health messages and building research capacity at institutions serving minority groups and in regions with geographic disparities in health;
2. increasing participation of racial and ethnic minorities and other groups with health disparities in biomedical and behavioral research;
3. expanding the pool of experienced investigators in the area of research on minority health and on disparities in minority health and other health disparities; and
4. supporting and conducting basic, clinical, and behavioral research; studying the influences of the processes by which health is maintained or improved; and investigating the societal, cultural, and environmental dimensions of health.

According to language in the legislation that establishes NCMHD (P.L. 106-525), research on minority health, disparities in minority health, and other health disparities may include basic, clinical, and behavioral research that seeks the following goals:

1. to identify (a) the biological underpinning(s) of differential responses to therapies or modes of disease transmission; (b) the prevalence of disease; and (c) the sequence of events leading to the induction, progression, or aggressiveness of disease

among racial and ethnic minorities and other groups with health disparities;

2. to investigate (a) ethnic and racially related differences in the viral or microbial genotype in virological and other types of infections; (b) host differences; and (c) differential responses to antiviral and other therapies;

3. to detect and elucidate environmental influences on the induction and progression of disease and illness and to identify the risk factors for disease, such as differences in cofactors and the role of biological risk factors (e.g., polymorphisms in receptors, enzymes, or other proteins);

4. to develop methodological tools for making improved and earlier diagnoses and for disentangling the effects of biological factors and socioeconomic status on health outcomes; and

5. to assess the impact of a plethora of social, behavioral, and psychosocial factors on health outcomes, including belief systems, lifestyle, health behaviors, health processes, support systems, perceived or real racism and discrimination, and the disparate influence of factors such as health policy decisions and access to health care. (Health processes include the quality of physician-patient or health worker-patient communications and interactions, the ease of accessing health care systems, and the perceived difficulty of negotiating to obtain health care.)

### **OFFICE OF DISEASE PREVENTION**

The Deputy Associate Director for Disease Prevention participated in several international activities addressing the effect of copper in the environment on public health. Copper is an essential trace metal that is required as a cofactor for numerous cellular processes and is critical for proper growth of the human brain and developing nervous system. However, copper and other trace metals can be toxic to populations and individuals if excess environmental exposures occur or if alterations in specific genes for metal transport are present.

The Deputy Associate Director was a panelist at an international workshop entitled Copper in the Fetus, Infants, and Children, in Amsterdam, the Netherlands, on March 7-8, 2000, and was active in the review of a monograph produced from this meeting. He

was also an invited speaker at the International Copper Association Environmental Health Symposium, in Montebello, Quebec, on May 1–3, 2000. In addition, the Deputy Associate Director visited Pucon, Chile, on October 23–26, 2000, as a member of an International Technology Advisory Group from the Pan American Health Organization. At the request of the Chilean Minister of Health, this group is advising Chilean investigators on the planning and conduct of a study entitled Determination of a No Effect Level for Copper in Drinking Water: a Prospective Community Study. Data from this study are being analyzed by the investigators, and a report is being prepared for publication in peer-reviewed journals.

The Deputy Associate Director also participated in a meeting of Sociedad Argentina de Neurología Infantil, in Buenos Aires, on October 27, 2000, and delivered a keynote address entitled Genetic Disorders of Copper Transport: Clinical, Biochemical, and Molecular Aspects.

### **Office of Dietary Supplements**

The Office of Dietary Supplements (ODS) was established by the Dietary Supplement Health and Education Act of 1994 (P.L. 103-417), which amended the Federal Food, Drug, and Cosmetic Act “to establish standards with respect to dietary supplements.” ODS was organized within the Office of the Director of NIH. Formal operations began in November 1995, with the mission of strengthening knowledge and understanding of dietary supplements by evaluating scientific information, stimulating and supporting research, disseminating research results, and educating the public, to foster an enhanced quality of life and health for the U.S. population.

In FY 00, ODS and NIAID cofunded a grant entitled Nitric Oxide Inhibitor and *Leishmania* Pathogenesis, to support research at Temple University School of Medicine, Philadelphia, Pennsylvania; Rutgers University, New Jersey; and Chicago Medical School, Illinois. The focus of this research is on curcumin, a constituent of the food ingredient tumeric, which has strong antioxidant activity, and on the role of curcumin in the pathogenesis of leishmaniasis, an insect-borne disease. Curcumin is used both as a spice and as a topical paste for insect bites in regions where *Leishmania* infection is en-

demically. It inhibits the production of nitric oxide and peroxynitrate compounds, as well as a number of inflammatory cytokines, which is critical for the elimination of *Leishmania* parasites. The objective of this study is to assess the effect of topical and dietary curcumin on *Leishmania*, both in vivo in a mouse model and in vitro. This work has general implications for the use of antioxidants in relation to human defenses against certain pathogens.

Also in FY 00, ODS cosponsored several international meetings and workshops. The Indo-U.S. Workshop on Health and Nutrition of Women, Infants, and Children was held in Hyderabad, India, on February 10–12, 2000. The meeting was organized by the Indian Council for Medical Research, the National Institute of Nutrition of India, the U.S. Agency for International Development, the Centers for Disease Control and Prevention, ODS, and NICHD. Groups from the United States and India exchanged ideas and experiences regarding nutrition research and intervention planning for public health programs related to the health of women, children, and adolescents, including the role of micronutrients. They also met to develop timely and realistic research priorities of shared interest; to develop strategies for implementation of a cooperative research program and approaches to translate that research into effective program and policy initiatives; and to produce a meeting report that included recommendations for the next steps in research.

The meeting on Efficacy and Safety of Medicinal Herbs, at the University of North Carolina, Chapel Hill, on March 2–3, 2000, was organized by ODS, NIEHS, and the School of Public Health, University of North Carolina. Speakers came from Canada, Germany, the United Kingdom, and the United States.

The conference on Metals in Medicine was held at the NIH, Bethesda, Maryland, on June 28–29, 2000. It was organized by ODS, NIAID, the National Cancer Institute (NCI), the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIEHS, the National Institute of General Medical Sciences, and the Center for Scientific Review, NIH.

The World Congress of Pediatric Gastroenterology, Hepatology, and Nutrition held its first meeting in Boston, Massachusetts, on

August 5–9, 2000, with partial support from ODS.

The International Food and Nutrition Forum is a new activity of the Food and Nutrition Board of the National Academy of Sciences. ODS and NICHD have contributed to the initial development of this forum.

During FY 00, the following publications emerged from workshops that were cosponsored by ODS in FY 99:

- The scientific proceedings of an international meeting entitled Zinc and Health, which was convened by ODS and held on the NIH campus, Bethesda, Maryland, in 1999, were published as a supplement to the *Journal of Nutrition* (May 2000). A summary for lay persons was also published in the *Journal of the American Dietetic Association* (March 2000).

- The scientific proceedings of a workshop entitled International Collaborative Research Project on Fluorides: Research Needs to Identify Opportunities for International Research on Fluorides for Oral Health, which was convened by the National Institute of Dental and Craniofacial Research (NIDCR) at the NIH, Bethesda, in 1999, were published in the *Journal of Dental Research* (April 2000).

- At the 1999 Annual Meeting of the Association of Chemoreception Sciences, in Sarasota, Florida, on April 14, 1999, ODS cosponsored a workshop with the National Institute on Deafness and Other Communication Disorders, to evaluate Nutritional Implications of Cephalic Phase Responses. The scientific proceedings of this workshop were published in *Appetite* (April 2000).

- The scientific proceedings of a workshop entitled Micronutrients and Infectious Diseases: Cellular and Molecular Immunomodulatory Mechanisms, which was convened by NIAID at the NIH, Bethesda, on September 16–17, 1999, were published in the *Journal of Infectious Diseases* (September 2000).

### **Office of Rare Diseases**

The Office of Rare Diseases (ORD) interacts with the international community in several ways:

- offers information on diagnosed rare diseases, on request, to patients, their families and friends, health service providers and researchers;

- provides support for national work-

shops with international participation and international scientific workshops, symposia, and conferences, to stimulate research on rare diseases and conditions for which research is lacking or lagging or when a scientific opportunity emerges; and

- facilitates exchange of information with foreign policy makers, researchers, program administrators, and voluntary support organizations and charities, in support of legislation to stimulate research on rare diseases.

In FY 00, ORD saw a continued increase in international inquiries about rare diseases, particularly through visits to the web site and by direct telephone and electronic inquiries to the ORD office. In addition, ORD continued to cosponsor the Medical Genetics and Rare Disorders subfile in the Combined Health Information Database, which is accessible on the Web. The remainder of this database, which lists health promotion and education materials and program descriptions for rare and more common diseases, is produced by other health-related agencies of the Federal Government. The Medical Genetics and Rare Disorders subfile contains information on approximately 1,200 groups of patients with rare diseases, in Canada, the United Kingdom, and the United States.

The Director and subsequently the Acting Director, ORD, continued to work with European Union administrators, scientists, voluntary support organizations, and charities to provide information on the NIH experience with the U.S. Orphan Drug Act (P.L. 97-414). They are exploring how this information might be helpful to constituencies focusing on rare diseases in Europe and how it might be relevant to their experience with the European Regulation on Orphan Medicinal Products, which was adopted on December 15, 1999.

On September 15, 2000, the Acting Director, ORD, made a presentation to staff, health professionals, researchers, and fellows of ORPHANET, at the French National Institutes of Health and Research (INSERM), Paris, France. The Acting Director spoke on providing information on rare diseases to patients, families, health providers, caregivers, researchers, and the general public, through the ORD web site and its information service (see <http://rare diseases.info.nih.gov/ord/>). ORPHANET is a relational data-

base on rare diseases and orphan drugs that was designed to improve the diagnosis, care, and treatment of rare diseases and to boost research activities in these areas. It was created at the request of the French Minister of Health and the General Director of INSERM.

The Director, ORD, was a member of the planning committee for the international symposium entitled A Journey From Gamete to Newborn. On September 22, 2000, the Acting Director, ORD, participated in a bi-continental welcome of participants to the meeting. The Acting Director also made a presentation on interaction between the Federal Government and fetal medicine in the United States, at Catholic University of Louvain, Belgium, on September 23, 2000.

For a summary of international meetings supported by ORD and cosponsored by NIH Institutes, see Table II-1.

## **OFFICE OF BEHAVIORAL AND SOCIAL SCIENCES RESEARCH**

The Office of Behavioral and Social Sciences Research (OBSSR) was established in July 1995, within the Office of the Director of NIH, to serve as the focal point for NIH research on behavioral and social sciences. OBSSR is guided by a strategic plan in the fulfillment of its responsibilities and works in partnership with the NIH Institutes and Centers to accomplish its goals. Major responsibilities of OBSSR include the following:

- providing leadership and direction for the development and implementation of a trans-NIH plan to increase the scope of and support for behavioral and social sciences research and training;
- developing initiatives to stimulate research in the behavioral and social sciences arena;
- integrating a psychosocial perspective across the research areas of the NIH; and
- providing leadership to ensure that findings from behavioral and social sciences research are disseminated to the public.

The contribution of behavioral and social factors to health is important, both in the United States and internationally. OBSSR does not make grants directly. However, in FY 00, the Office joined with FIC, NIA, NIDCR, the National Eye Institute, the National Institute of Mental Health, and the World Bank to issue a Request for Applications (RFA) for a study of the effects of health

on microeconomic agents (individuals, households, and enterprises) and on aggregate growth, as determined by cross-country growth analysis. The study will also explore how health finance and delivery systems are a source of variation in health outcomes in developing countries.

In addition, OBSSR is working with FIC and several NIH Institutes to plan a conference entitled Stigma and Global Health: Developing a Research Agenda, to be held in Bethesda, Maryland, on September 5–7, 2001. They are also preparing an RFA for FY 02 on the role of stigma in mental and physical health problems. Diseases such as epilepsy, substance abuse, HIV/AIDS, and schizophrenia carry the added burden of social stigma, which contributes to suffering and impedes access to effective health care interventions. This initiative will examine current research and develop an agenda for further study of the role of stigma in both developed and developing countries around the world. The initiative will help to define stigma and methods for its study; identify the major theories on stigma as they apply to health-related issues; examine the commonalities and differences in sources, mechanisms, and consequences of stigma across diseases and countries; and identify effective interventions to overcome stigma at the level of prevention, treatment, services, and health maintenance.

OBSSR sponsored a conference examining stress- and gender-related factors in the increase in cardiovascular disease in Central and Eastern Europe, particularly among men. The conference was sponsored jointly with the North Atlantic Treaty Organization and the Wellcome Trust. The meeting, attended by 45 participants, was held in Budapest, Hungary, on May 20–24, 2000.

Since January 1999, OBSSR staff have been participating in an initiative to develop intervention guidelines for countries torn by traumatic events. These guidelines focus on both practice and public policy. Repairing the political and economic consequences of events such as war and disaster has long been a focus of United Nations efforts, but the psychological effects of traumatic events have been largely overlooked. The goal of this ongoing initiative is to produce a report for the United Nations that will bring strategies for trauma intervention to social and public policy makers, building on re-

**TABLE II-1.****International Meetings on Rare Diseases, Office of Rare Diseases, NIH, Fiscal Year 2000**

<b>Meeting Title</b>	<b>Cosponsoring NIH Institute(s)</b>	<b>Date in 2000 Location</b>	<b>Countries of Non-U.S. Speakers</b>
Workshop on Corticobasal Degeneration	NIA	July 8 Bethesda, Maryland	Austria, Canada, France, Japan, United Kingdom
Cutaneous Gene Therapy: Problems and Prospects	NIAMS	March 23–24 NIH campus Bethesda, Maryland	Austria, Denmark, France, Germany, Italy, Japan, Spain, United Kingdom
Workshop on Inflammatory Myopathy	NIAMS	April 5–6 Bethesda, Maryland	Germany, Israel, Sweden, United Kingdom
Therapeutic Approaches for Duchenne Muscular Dystrophy	NIAMS NINDS	May 15–16 NIH campus Bethesda, Maryland	France, Germany
Waldenström's Macroglobulinemia	NCI	September 7–8 Bethesda, Maryland	France, Greece, United Kingdom
Fetal Diagnosis and Therapy	NICHHD	September 21–23 Louvain, Belgium	Austria, Belgium, Canada, Chile, France, Italy, the Netherlands, Spain, United Kingdom
Noma: Building a Research Infrastructure for Developing Countries	NIDCR	April 3 NIH campus Bethesda, Maryland	The Netherlands, Nigeria, Senegal, Switzerland
Sjögren's Syndrome	NIDCR	September 25–26 Bethesda, Maryland	England, Japan, Norway, Sweden
Congenital Disorders of Glycosylation	NIDDK	November 8 Boston, Massachusetts	Argentina, Belgium, Canada, Croatia, France, Germany, Israel, Italy, Japan, Mexico, the Netherlands, New Zealand, Switzerland, United Kingdom
Shwachman-Diamond Syndrome	NIDDK	August 4 Boston, Massachusetts	Australia, Canada, Egypt, Israel, United Kingdom
Bronchopulmonary Dysplasia	NHLBI	June 1–2 Bethesda, Maryland	Switzerland
Conquering Lymphatic Disease: Setting the Research Agenda	NHLBI	May 11–13 NIH campus Bethesda, Maryland	Argentina, Australia, Austria, Brazil, Canada, Finland, France, Germany, Italy, Japan, the Netherlands, Northern Ireland, Norway, Poland, Sweden, Switzerland, United Kingdom
Von Willebrand Factor and Thrombocytopenic Purpura	NHLBI	July 31 NIH campus Bethesda, Maryland	Austria, Canada, Italy, Japan
High-throughput Screening of Therapeutic Drug Candidates for Amyotrophic Lateral Sclerosis and Spinal Muscular Atrophy	NINDS	April 10–11 Neurosciences Center Rockville, Maryland	Canada, France, United Kingdom
Brain Uptake and Utilization of Fatty Acids	NINDS	March 2–4 Bethesda, Maryland	Canada, France, Israel, the Netherlands, Spain
Hallervorden-Spatz Disease	NINDS	May 19–21 Bethesda, Maryland	Australia, Canada, France, Hong Kong (China), Italy
Hereditary Spastic Paraplegia	NINDS	May 25–27 Bethesda, Maryland	Denmark, France, Portugal, United Kingdom
International Symposium on Myoclonus, Paroxysmal Dyskinesias, and Related Disorders	NINDS	October 26–29 Peachtree City, Georgia	Australia, Europe, Far East

search findings generated over the past two decades. Contributors represent each continent, with representatives drawn from both developed and developing countries.

## **OFFICE FOR PROTECTION FROM RESEARCH RISKS**

In FY 00, the Office for Protection From Research Risks (OPRR) successfully negotiated more than 1,200 assurances (Protection of Human Subjects Assurance Identification/Certification Declarations) for research conducted in 110 countries outside the United States. OPRR maintains regular contacts with the United Kingdom's Cancer Research Campaign and with the European Organization for Research and Treatment of Cancer (EORTC), which includes 110 research sites. Both of these organizations collaborate with DHHS in international multicenter clinical trials.

The OPRR Deputy Director continues to serve as an advisor and liaison to the Standing Ethics Committee of the Canadian Medical Research Council. In May 2000, the Deputy Director participated in a Human Subject Protections Workshop, in Moscow, Russia, with a WHO delegation. In October 2000, she participated in a U.S.-India Research Policy Forum, in New Delhi.

In FY 00, OPRR staff met with scientists and administrators from several countries, including Australia, Belgium, Brazil, Canada, China, Italy, Japan, New Zealand, Russia, Taiwan, and member countries of EORTC. Staff also met with numerous U.S. Department of State science advisors posted in countries around the world.

In FY 00, OPRR was administratively moved from the NIH to DHHS. The organization is now called the Office of Human Research Protections.

## **OFFICE OF EXTRAMURAL RESEARCH**

In FY 00, the Deputy Director for Extramural Research took part in several international activities. She participated in a meeting of the Advisory Committee on Health Research, at WHO, in Geneva, Switzerland, on October 31–November 3, 1999. The Deputy Director also contributed to an FIC-organized exchange with the National Natural Science Foundation, in Beijing, China, on May 15–19, 2000. In July, she attended the American Institute for Medical and Biologic

Engineering's World Congress on Medical Physics and Biomedical Engineering, in Chicago, Illinois. In August, the Deputy Director served on the Scientific Review Committee on Social Science Research and Reproductive Health, of WHO's Human Reproduction Program. In addition, she attended the Global Bioethics Forum and the FIC Health and Economic Symposium, both in Bethesda, Maryland.

The Deputy Director has served since 1995 as the NIH representative on the board of trustees of the Human Frontier Science Program, a multinational program that supports international cooperation in molecular biology and research into brain functions, through the award of research grants and fellowships and through funding of related conferences and workshops. In 1999, the Deputy Director became cochair of the board of trustees, which met in Strasbourg, France, on March 27–29, 2000. She also cochaired the planning for the third part of the celebration of the 10th anniversary of the Human Frontier Science Program, which took place in Washington, D.C., on December 10–11, 1999.

Throughout FY 00, the Deputy Director met with representatives of foreign governments and organizations, including the Japanese Association for the Advancement of Medical Equipment, on July 5, 2000; the Karolinska Institute, Stockholm, Sweden, on September 12, 2000; and the Taiwanese Minister of Health, on August 15, 2000. In addition, staff of the Office of Extramural Research routinely provide briefings to visiting international scientists and provide information to researchers abroad.

## **OFFICE OF INTRAMURAL RESEARCH**

The Office of Intramural Research (OIR), under the leadership of the Deputy Director for Intramural Research, oversees the conduct and management of the NIH intramural research program, the world's largest biomedical research enterprise. More than one-third of the nearly 5,000 doctoral-level trainees and staff are foreign scientists participating in the NIH Visiting Program. They are sponsored under nonimmigrant visas (e.g., J-1, H-1B, and O-1 visas). Policy oversight with respect to application for the visa and to the visa waiver program is provided by OIR. Special requests for visa extensions

or sponsorship are reviewed by several OIR committees, such as the J-1 Visa Extension Review Committee, the H-1B Visa Review Committee, and the O-1 Visa Committee. These committees work closely with the International Services Branch of FIC to deal with the U.S. Immigration and Naturalization Service and the Department of State on waiver and visa matters.

In FY 00, the Deputy Director and OIR staff held a number of discussions with representatives of foreign organizations on potential research training collaborations. These included representatives from Oxford University, England; the University of Naples, Italy; the Korea Advanced Institute of Science and Technology (KAIST); the Singapore Economic Development Board; and other organizations described here.

The OIR Office of Graduate Partnerships and Office of Education are involved in these discussions at the graduate student and postdoctoral fellowship levels, respectively.

## **Graduate Program Partnerships**

The initiative on Graduate Program Partnerships (GPP) began in July 2000, to bring more graduate students from national and international universities to the NIH. In these NIH-university partnerships, university faculty and NIH researchers collaborate in research training by advising and teaching students. Through the development of these partnerships, many more graduate students and their university mentors will become aware of and journey to the NIH. The partnerships will strengthen and expand the NIH role as a key provider of excellent training for the biomedical scientists of tomorrow in the global arena.

The goals of GPP are as follows:

1. to establish and foster Ph.D. and M.S. graduate-level training partnerships with universities dedicated to quality education in biomedical basic and clinical research;
2. to establish a graduate program infrastructure similar to those in universities, to ensure student progress; and
3. to provide a quality student life and community experience for graduate students at the NIH.

There are nearly 200 graduate students at the NIH, and this number is projected to increase twofold or more in the next 5 years. These graduate students come from 35 uni-

versities and are located in all NIH Institutes and Centers.

The advantages of NIH-university partnerships in graduate training are myriad. The faculty of universities share in the vast science expertise of NIH faculty. The NIH hosts more than 1,200 highly qualified research scientists who are engaged in cutting-edge biomedical research and who can serve as research advisors to students, develop collaborative research projects with university faculty, and teach graduate-level courses. The faculty of the NIH enhance and support the efforts of universities in the creation of new Ph.D. degree programs that cannot be supported by universities alone, because of insufficient faculty, funds, or facilities. The NIH stands at the center of many areas of research: two especially prominent areas are human genome research and bioinformatics.

For students in the NIH-university programs, the experience is unparalleled and the exposure to thousands of research faculty and postdoctoral fellows surpasses the experience in any university in the world. The NIH has constructed a graduate student meeting area near the centrally located GPP Graduate Student Office and auditoriums, on the NIH campus, in Bethesda, Maryland. These facilities provide students with a comfortable academic setting and opportunities to build a community.

Through GPP, the NIH has actively sought partnerships with non-U.S. universities, following the trend of globalization of national economies and education. After finishing the course work required for a doctoral degree in their home universities, the foreign university predoctoral students come to the NIH to do research for 1–3 years. For all programs involving foreign universities, FIC has an essential role in advising and dealing with students. In FY 00, partnerships were established with the NIH through GPP, as described here.

For the promotion of biomedical science through the Korean Ministry of Education project Brain Korea 21, KAIST and Kwangju Institute of Science and Technology, Korea, will send up to six graduate students per year for up to 1 year, for research at the NIH. NIH host laboratories will be identified by the students before their arrival, to ensure efficient use of the 1 year of research time.

The University of Naples Federico II, Italy,

will send up to five Ph.D.-level and M.D.-level investigators to the NIH for 6 months to 3 years, for basic research training similar to graduate student education. The training will be in one or several of the fields of molecular oncology, endocrinology, genetics, microbiology, immunology, and biotechnology. As an exchange program, U.S. postdoctoral fellows and physicians can work at the University of Naples for a period of time as postdoctoral fellows.

Through the Korean Ministry of Education, under project Brain Korea 21, Seoul National University has formed a partnership with the NIH to collaborate in the training of university graduate students and to develop exchange programs between the university and NIH faculty. The university will send up to five students per year for a period of about 1 year, and all students must be beyond the 1st year of course work and at a Master's level or equivalent in training.

Sackler Faculty of Medicine, University of Tel Aviv, Israel, has developed a partnership with the NIH to send up to five graduate students to predetermined NIH laboratories for a period of 2 months each summer for graduate research. The NIH is hosting web sites to foster the sharing of faculty information for both NIH and Sackler researchers and to develop the collaborations needed to further joint development of student projects by the two mentors. The students will come to the NIH each summer for three summers, and the faculty of the program will exchange visits each year.

In a partnership between the NIH and Oxford University, England, three U.S. students from the NIH will go to Oxford University to earn a Ph.D. while collaborating with the faculty of Oxford University. It is anticipated that an equal number of students from the United Kingdom and the United States will be involved in the program. The students from the United Kingdom will earn their Ph.D. degree from Oxford University but will spend the majority of their time in NIH research laboratories.

In addition to these formal programs, efforts are being made to establish graduate training partnerships with two other foreign universities: Karolinska Institute, Stockholm, in the area of neuroscience, and Cambridge University, England, in the area of immunology.

Plans for future GPP initiatives include

developing programs with Trinity University, Ireland, Latin American universities, and the University of Singapore. Discussions with representatives of foreign universities have demonstrated that collaborations between researchers at universities and the NIH that result from shared training of graduate students have a notable positive impact on the development of foreign and NIH faculty research and on future directions of research in foreign countries. GPP fosters such joint research by hosting web sites for collaborations between foreign and U.S. faculty, by publishing books that profile faculty, and by facilitating the entry of foreign graduate students into the graduate life of NIH students.

#### **Office of Education**

In 1999, in response to growing interest in rotations among students in foreign institutions, the Office of Education expanded eligibility for the Clinical Electives Program to the international community. This policy change was implemented as a result of changes to the B-1 visa authority that now permits students in foreign medical schools to enter the United States temporarily to participate in elective clerkships. As a Federal biomedical research agency with a research hospital, the NIH is considered by the Department of State to be an appropriate institution for offering elective clerkships.

#### **Office of Human Subjects Research**

For FY 00, the Office of Human Subjects Research reported that 14 protocols involving subjects at international sites were reviewed and approved by NIH Institutional Review Boards.

#### **Senior Advisor to the Deputy Director for Intramural Research**

The Senior Advisor to the Deputy Director for Intramural Research serves as the DHHS representative on the Interagency Arctic Research Policy Committee, chaired by the National Science Foundation. In this capacity, he also serves as the focal point for the human health aspects of the Arctic Monitoring and Assessment Program (AMAP), one of the working groups of the Arctic Council, which in 1997 superseded the former Arctic Environmental Protection Strategy. The United States is one of the eight signatory nations.

The Senior Advisor was appointed in 1998 as the DHHS liaison for Arctic Council activities and attends monthly meetings of the Arctic Policy Group, convened by the Department of State to consider issues related to the Arctic Council. The Senior Advisor attended the meeting of the AMAP-Sustainable Development Working Group, on November 17, 1999, and the meeting of the Senior Arctic Officials, on November 18–19, 1999, both at the Department of State, Washington, D.C. These two groups also met in Fairbanks, Alaska, on April 26–28, 2000.

The Senior Advisor was instrumental in initiating the International Conference on Arctic Development, Pollution, and Biomarkers of Human Health, which was held in Anchorage, Alaska, on May 1–2, 2000. This conference, spearheaded by NIEHS, was a significant U.S. contribution to the AMAP-Human Health agenda and was cosponsored by the National Science Foundation, the U.S. National Oceanographic and Atmospheric

Administration, and the U.S. Environmental Protection Agency.

As DHHS Arctic Research representative, the Senior Advisor attended and assisted in raising DHHS support for the 11th International Conference on Circumpolar Health, held in Harstad, Norway, on June 4–9, 2000.

During FY 00, the Senior Advisor also met with a number of foreign delegations and dignitaries, including the following:

- China—Minister of Health, on March 29, 2000, and National Natural Science Foundation, on September 7 and 21, 2000;

- Finland—Lord Mayor of Helsinki, on March 13, 2000;

- France—Ministry for Research, Education, and Technology, on December 9, 1999;

- Iceland—Health and Social Security officials, on March 24, 2000;

- Ireland—Science, Technology, and Innovation Division, on February 7, 2000;

- Italy—representatives to discuss the University of Naples agreement, on September 15, 2000;

- Japan—Council for Science and Technology Task Force, on March 8, 2000;

- Korea—KAIST, on December 6, 1999; and

- Singapore—Economic Development Board, on November 3, 1999, and National Science and Technology Board, on July 17, 2000.

These meetings involved discussions of (a) the administration and management of the NIH intramural program; (b) mechanisms for establishment of collaboration between the NIH and foreign organizations; and (c) collaborative opportunities for research on health in the Arctic region.

As a member of a four-person NIH delegation, the Senior Advisor presented lectures on The NIH Intramural Program—Its Management and Evaluation, at a meeting convened by the National Natural Science Foundation of China and the Chinese Academy of Medical Science, in Beijing, on May 15–17, 2000.